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EXAMINER

WEINSTEIN, LEONARD J

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This office action is in response to the amendment of April 28, 2008. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-4, 7-8, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kullik DE19904119 A1, heretofore referenced cited with reference to the US patent Kullik US 6,418,927. Kullik teaches all the limitations as claimed for a compressor including: **[claim 1]** a centrifugal compressor 1 for compressing a gas and an electric motor, as defined by elements 2 and 3, having a stator 3 and a rotor 2 for driving the compressor 21, the compressor 1 and the electric motor, as defined by elements 2 and 3, being accommodated in a common gastight housing 6 which is provided with a gas inlet 7 and a gas outlet 8 (col. 3 ll. 1-10), the stator 3 being accommodated in a separate stator space, as defined be the space between an outer diameter of element 2 and an inner diameter of the body surrounding element 3, which is delimited by a wall section, inner diameter of body surrounding element 3, surrounding the stator 3, of the housing 6 of the compressor unit 1, a gastight partition 9 which extends between the stator 3 and the rotor 2 of the electric motor 1, and at least

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one end wall 11, which extends between the partition 9 and the housing 6 of the compressor unit 1, wherein the partition 9 extends freely between the stator 3 and the rotor 2 of the electric motor 1 and comprises a material of sufficiently high strength for it to remain clear of the stator 3 and the rotor 2 under working pressures of the gas which may occur inside the housing 6 (col. 3 ll. 11-22), wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 61-64); **[claim 3]** a partition comprises an erosion-resistant layer on the rotor side (col. 3 ll. 64 - col. 4 ll. 3); **[claim 4]** a partition 9 comprises a gastight layer (col. 3 ll. 18-22); **[claim 7]** a compressor wherein a wall thickness of the partition 9 is greater at the ends than in the middle, as can be seen in figure 1 both the bottom and top distal ends of element 9 are thicker than a middle section that encompasses the lower segment of element 2; **[claim 8]** and a partition 9 and the end wall 11 are separate parts which are connected to one another in a gastight manner by means of one or more sealing rings, junction formed by flange like top section of element 9 between the top surface of element 3 and sealing ring not identified but formed over element 9 and within inner diameter of element 11.

[Claim 12] Kullik further teaches all the limitations a claimed for a method for a centrifugal compressor 1 for compressing a gas and an electric motor, as defined by elements 2 and 3, having a stator 3 and a rotor 2 for driving the compressor 21, the compressor 1 and the electric motor, as defined by elements 2 and 3, being accommodated in a common gastight housing 6 which is provided with a gas inlet 7 and a gas outlet 8 (col. 3 ll. 1-10), the stator 3 being accommodated in a separate stator space, as defined by the space between an outer diameter of element 2 and an inner diameter of the body surrounding element 3, which is delimited by a wall section, inner diameter of body surrounding element 3, surrounding the

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stator 3, of the housing 6 of the compressor unit 1, a gastight partition 9 which extends between the stator 3 and the rotor 2 of the electric motor 1, and at least one end wall 11, which extends between the partition 9 and the housing 6 of the compressor unit 1, wherein the partition 9 extends freely between the stator 3 and the rotor 2 of the electric motor 1 and comprises a material of sufficiently high strength for it to remain clear of the stator 3 and the rotor 2 under working pressures of the gas which may occur inside the housing 6 (col. 3 ll. 11-22), wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 61-64) including the step of compressing a gas with a compressor unit (col. 3 ll. 7-11).

4. Claims 1, 5, 7, 9, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunning et al. 3,951,573. Dunning teaches all the limitations as claimed for a compressor including: **[claim 1]** a centrifugal compressor 10 for compressing a gas and an electric motor 28 having a stator 29 and a rotor 14 for driving the compressor 10, the compressor 10 and the electric motor 28 being accommodated in a common gastight housing 12 (col. 2 ll. 55-58) which is provided with a gas inlet 17 and a gas outlet 25, the stator 29 being accommodated in a separate stator space, as defined by elements 30 and 16, which is delimited by a wall section 30 surrounding the stator 29, of the housing 12 of the compressor unit 10, a gastight partition 33 which extends between the stator 29 and the rotor 14 of the electric motor 28, and at least one end wall, as defined by 26 and 27, which extends between the partition 33 and the housing 12 of the compressor unit 10, wherein the partition 33 extends freely between the stator 29 and the rotor 14 of the electric motor 28 and comprises a material of sufficiently high strength for it to remain clear of the stator 29 and the rotor 14 under working pressures of the gas which may occur inside the housing 12, wherein the high-strength material of

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the partition comprises a fibre-reinforced plastic (col. 3 ll. 18-29); **[claim 5]** a partition 33 comprises a layer of corrosion-free metal (col. 3 ll. 18-29); **[claim 7]** a compressor 10 wherein a wall thickness of the partition 33 is greater at the ends than in the middle, as elements 26 and 27 extend from, and have a greater thickness than element 33 as shown in figure 1; **[claim 9]** a and stator space, as defined by elements 16 and 30, is provided with connections, elements 34 and 36, to a cooling unit for supplying and discharging a cooling medium.

[Claim 12] Dunning further teaches all the limitations as claimed for a method for a centrifugal compressor 10 for compressing a gas and an electric motor 28 having a stator 29 and a rotor 14 for driving the compressor 10, the compressor 10 and the electric motor 28 being accommodated in a common gastight housing 12 (col. 2 ll. 55-58) which is provided with a gas inlet 17 and a gas outlet 25, the stator 29 being accommodated in a separate stator space, as defined by elements 30 and 16, which is delimited by a wall section 30 surrounding the stator 29, of the housing 12 of the compressor unit 10, a gastight partition 33 which extends between the stator 29 and the rotor 14 of the electric motor 28, and at least one end wall, as defined by 26 and 27, which extends between the partition 33 and the housing 12 of the compressor unit 10, wherein the partition 33 extends freely between the stator 29 and the rotor 14 of the electric motor 28 and comprises a material of sufficiently high strength for it to remain clear of the stator 29 and the rotor 14 under working pressures of the gas which may occur inside the housing 12, wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 18-29) including the step of compressing a gas with a compressor unit (col. 2 ll. 66-67).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kullik DE19904119 A1, heretofore cited with reference to the US patent Kullik US 6,418,927. Kullik discloses the claimed invention except for a partition formed with polyaryl ether ketone. It would have been obvious to one having ordinary skill in the art at the time the invention was made to a partition formed with polyaryl ether ketone in order to have a compressor provided with a partition between a stator and a rotor. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunning 3,951,573. Dunning discloses the claimed invention except for a partition formed with

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polyaryl ether ketone. It would have been obvious to one having ordinary skill in the art at the time the invention was made to a partition formed with polyaryl ether ketone in order to have a compressor provided with a partition between a stator and a rotor. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunning 3,951,573, in view of Brunet US 6,350,109. Dunning teaches all the limitations as discussed including: and a partition 33 having erosion-resistant properties, having a high strength and being gastight but fails to teach the following limitation that is taught by Brunet for a partition between a stator 111 and a rotor 4 including a partition 6 and having a separate inner layer 61 and an outer layer 6, as defined by the partition formed around the inner layer 61, with one layer 61 being of high strength and having erosion-resistant properties (Brunet col. 4 ll. 57-59), and one layer being gas tight 6. It would have been obvious to one having ordinary skill in the art at time the invention was made modify a partition to have multiple layers in order to protect rotor (Brunet col. 4 ll. 52-64).

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunning 3,951,573 i.v. Brunet US 6,350,109, and further in view of Lee et al. US 6,336,986.

Dunning teaches the product as claimed for a centrifugal compressor 10 for compressing a gas and an electric motor 28 having a stator 29 and a rotor 14 for driving the compressor 10, the compressor 10 and the electric motor 28 being accommodated in a common gastight housing 12 (col. 2 ll. 55-58) which is provided with a gas inlet 17

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and a gas outlet 25, the stator 29 being accommodated in a separate stator space, as defined by elements 30 and 16, which is delimited by a wall section 30 surrounding the stator 29, of the housing 12 of the compressor unit 10, a gastight partition 33 which extends between the stator 29 and the rotor 14 of the electric motor 28, and at least one end wall, as defined by 26 and 27, which extends between the partition 33 and the housing 12 of the compressor unit 10, wherein the partition 33 extends freely between the stator 29 and the rotor 14 of the electric motor 28 and comprises a material of sufficiently high strength for it to remain clear of the stator 29 and the rotor 14 under working pressures of the gas which may occur inside the housing 12, wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 18-29). A combination with Brunet as discussed a partition between a stator 111 and a rotor 4 including a partition 6 and having a separate inner layer 61 and an outer layer 6, as defined by the partition formed around the inner layer 61, with one layer 61 being of high strength and having erosion-resistant properties (Brunet col. 4 ll. 57-59), and one layer being gas tight 6.

A combination of Dunning and Brunet would be obvious but the combination would fail to teach a method of producing a partition that is taught by Lee including: producing the inner layer 112 and outer layer 130 separately, in the form of an inner shell 112 and an outer shell, the external diameter of the inner shell, under the same pressure and temperature, being larger than the internal diameter of the outer shell 130, temporarily increasing the diameter of the outer shell by means of gas or liquid pressure, or temporarily reducing the diameter of the inner shell by lowering the

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temperature of the inner shell , so that it is possible to push the inner shell into the outer shell; and restoring the diameter of the outer or inner shell by restoring the pressure of the outer shell or restoring the temperature of the inner shell, (col. 4 ll. 52-65). It would have been obvious to form a partition by forming composite layers separately in order to provide an inner layer with a high strength and outer layer high modulus (Lee – col. 2 ll. 34-35).

Response to Arguments

11. Applicant's arguments filed April 28, 2008 have been fully considered but they are not persuasive.

a. With regards to the rejection of claims 1, 3-4, 7-8, and 12 under 35 USC 102(e) as anticipated by Kullik DE 19904119 A1, the applicant argues that the Kullik does not teach a partition formed of fibre-reinforced plastic.

i. The examiner disagrees with the applicant's assertion that a partition wall formed of "fibre-reinforced plastic" distinguishes over the partition wall taught by Kullik that is made from a ceramic **and/or** plastic material as cited by the examiner and noted by the applicant in the remarks section of the instant response. First it would appear that if the invention of Kullik was provided with a partition wall that was formed from ceramic and plastic it would have the basic material components of the resulting material produced by fibre reinforcing a plastic material. Second the examiner points out that the material of which a component is made does not affect its function in either the instant invention or the reference

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in Kullik. Finally the examiner further notes the limitations as presented suggest a product by process and the determination of patentability in a product-by-process claim is based on the product itself, even though the claim may be limited and defined by the process. That is, the product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). A product-by-process limitation adds no patentable distinction to the claim, and is unpatentable if the claimed product is the same as a product of the prior art.

b. With regards to the rejection of claims 1, 5, 7, 9, and 12 under 35 USC 102(e) as anticipated by Dunning et al. US 3,951,573, the applicant argues that the Dunning does not teach a partition formed of fibre-reinforced plastic

i. For the reasons cited above with respect to the claimed limitations setting forth a component that regardless of material performs the same function and a product by process, the examiner upholds the rejections of claims 1, 5, 7, 9, and 12. The examiner also notes that diaphragm being formed from a non-conductor is in the very least within the scope of the resulting plastic material that is fibre reinforced as it would also be a non-conductive material.

c. With regards to the rejection of claim 10 under 35 U.S.C. 103(a) as being unpatentable over Dunning US 3,951,573 in view of Brunet 6,350,109, the

applicant argues that Brunet does not teach or suggest a partition having an inner layer and an outer layer.

i. The examiner disagrees and notes that in the prior office action the examiner identified the elements of the instant invention taught by Brunet as “a partition between a stator 111 and a rotor 4 including a partition 6 and having a separate inner layer 61 and an outer layer 6, as defined by the partition formed around the inner layer 61, with one layer 61 being of high strength and having erosion-resistant properties (Brunet col. 4 ll. 57-59), and one layer being gas tight 6.” The applicant has failed to address the elements which the examiner as cited as teaching the limitations as claimed by merely asserting that Brunet does not teach an inner and outer layer.

d. With regards to the rejection of claim 11 under 35 U.S.C. 103(a) as being unpatentable over Dunning 3,951,573 i.v. Brunet US 6,350,109, and further in view of Lee et al. US 6,336,986. The applicant asserts that Lee does not teach “fitting of a partition wall structure comprising several layer having a temporary thermal dilation of . . . the outer wall. . . .”

i. The examiner notes that the applicant has assert that claim 11 is limited to method including thermal dilation and the shrinking tube of Lee essentially teaches the opposite. The examiner notes that the limitations recite a method comprising the step of "temporarily increasing the diameter of the outer shell by means of gas or liquid pressure, or

temporarily reducing the diameter of the inner shell." Therefore the examiner was not limited by the limitation reciting an expansion thereof an outer layer and limitations as claimed are rendered obvious in view of the references cited above.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone number is (571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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